HAMMARLUND

HQ-100

Your Best Buy!

- ★ **VERSATILE** — Continuously tunable from 540 KCS to 30 MCS with sensitivity and selectivity surpassing anything in its class.
- ★ **BANDSPREAD** — Electrical bandspread tuning with unequalled direct dial calibration. Dial markings every 10 KCS on 80, 40, and 20 meter bands; every 20 KCS on 15 meter band and every 50 KCS on 10 meter band.
- ★ **Q-MULTIPLIER** — Permits continuously variable selectivity to meet all operating conditions.
- ★ **STABLE** — Voltage-regulated and temperature-compensated high-frequency oscillator for extra stability.
- ★ **AUTO-RESPONSE** — Automatically adjusts audio response to fit receiving conditions.
- ★ **AUTOMATIC NOISE LIMITER** — Minimizes static bursts and ignition interference.
- ★ **CIRCUIT** — 10-tube superheterodyne circuit.
- ★ **CABINET** — Futuristic design and construction with "humanized" control location and markings.
- ★ **CONSTRUCTION** — Rugged die-cast aluminum front panel and heavy-gauge chassis and cabinet.
- ★ **WARM-UP TIMER** — Automatically turns on receiver at any pre-determined time.*

DOLLAR-FOR-DOLLAR the most amazing communications receiver ever produced! To make the HQ-100 possible, Hammarlund started from scratch with a brand-new concept in receiver design. The result has exceeded all expectations.

One of the many stand-out features of this new receiver is the Auto-Response circuit which makes possible a complete range of audio output from the sharp response required in communications work to the broad response required in high fidelity broadcast reception. This function is entirely automatic within the receiver and will work with any speaker of reasonable impedance match to the receiver. In the broad response range, the HQ-100 eliminates speaker "hangover" and resonance transients generated by the speaker, thus providing better sound from any speaker.

Sensitivity and selectivity of the HQ-100 place it in the really "hot" class. Selectivity may be continuously varied by means of a specifically-designed Q-Multiplier while the electrical bandspread feature provides accurate tuning in the most crowded parts of the radio spectrum within the range of the receiver.

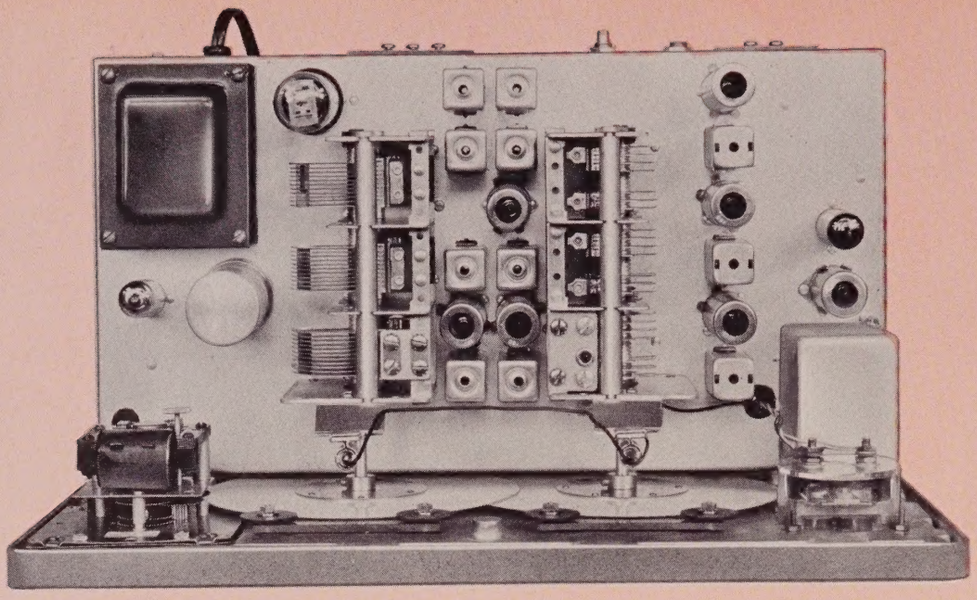
Despite its low cost, the HQ-100 is not a "gutless wonder". One look at the chassis establishes the fact that it is definitely a Hammarlund receiver through and through; built for outstanding performance now and for years to come.

The unique front panel and cabinet design result in a sturdy, attractive receiver that looks right in the living room, den, or radio shack. An optional built-in Telechron automatic clock-timer permits the operator to meet pre-arranged listening schedules with a thoroughly warmed-up receiver.

For the short-wave listener, for the novice, and even the most critical amateur, the HQ-100 offers the most wanted features—and most important of all—*at a popular price.*

Established 1910

* Optional Feature



TOP VIEW

THE HQ-100 Communications Receiver is a table-top model with a self-contained, regulated power supply for operation on 105 - 125 volts, 50 - 60 cps, 68 watts. The power supply is completely filtered to eliminate AC hum. The receiver is housed in a newly designed steel cabinet with die-cast aluminum front panel. Adequate ventilation is provided through the use of an overall perforation of the steel cabinet for optimum operating temperature.

Attractive, "natural grip" control knobs on front panel have been functionally positioned for maximum operating ease and comfort. Calibrations and other markings on front panel are highly legible.

The HQ-100 receives all signals in the frequency range of 540 KCS to 30 MCS through the use of four tuning bands. Bands are selected by a Tuning Range switch on the front panel. The HQ-100 is designed for use with either a straight line flat-top wire or a folded dipole wire antenna. A trimming capacitor is provided for matching receiver to the antenna used.

CIRCUIT DESIGN

The HQ-100 is a semi-professional type communications receiver in both circuit design and component selection. It is basically a ten-tube superheterodyne with a noise limiter.

An extremely high degree of stability is achieved through the use of a separate mixer (6BE6) and oscillator (6C4). High gain with low noise in the RF amplifier and the two IF amplifier stages is made possible through the use of advance circuit design and modern tube types. Impulse noise, such as automobile ignition is reduced to a minimum by the use of one section of the 6AL5 as a self-adjusting noise limiter. This circuit has no appreciable effect on the desired signal. The other half of the 6AL5 is employed as a second detector and as an AVC system.

Frequency drift of the HQ-100 is less than 0.01%. This high degree of stability stems from the use of low-loss sockets, coil forms and band-switch wafers, temperature-compensating capacitors, application of regulated power to the oscillator circuit and the rugged construction of the entire high-frequency oscillator section assembly.

BANDSPREAD

Electrical bandspread tuning with direct dial calibration is provided for five amateur bands: 80, 40, 20, 15 and 10-meter. By using two bandspread capacitor sections, optimum performance in bandspread operation has been attained. To use the bandspread feature, the operator sets the Main Tuning Dial at the high end of the desired band, then tunes the Bandspread Dial over the range desired. The HQ-100 also incorporates O-100 arbitrary logging scale.

RF SECTION

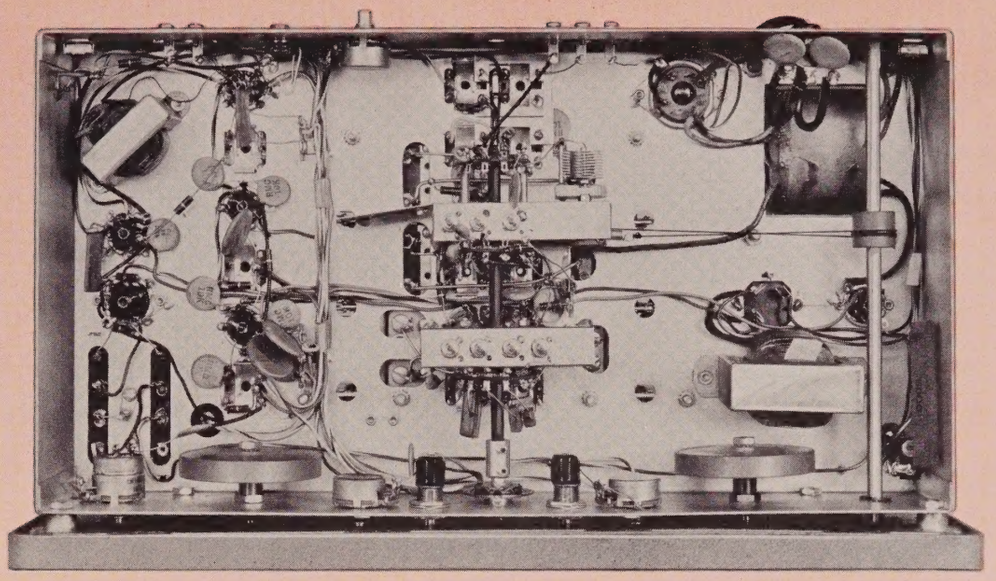
Excellent antenna coupling and the high signal-to-noise ratio of the RF amplifier provide pre-selection and the high signal level for optimum performance. The antenna compensating capacitor assures the maximum transfer of signal strength from the antenna to the RF amplifier. This adjustment is made at the front panel.

Q-MULTIPLIER

The Q-Multiplier circuit permits the operator to continuously vary the degree of selectivity. This feature is extremely important in receiving the crowded signals in today's ham bands. It permits on-the-peak tuning, without the need for detuning the RF section of the receiver. A section of the 12AX7 is used in the Q-Multiplier.

IF AMPLIFIER

Seven tuned-circuits in two stages of IF amplification contribute to the sensitivity and selectivity of the HQ-100. Iron core permeability-tuned transformers improve performance and retain accuracy of alignment.



BOTTOM VIEW

Fading and signal strength variations are overcome by a very fast response Automatic Volume Control circuit which controls the gain of the RF stage and the first IF stage.

S METER

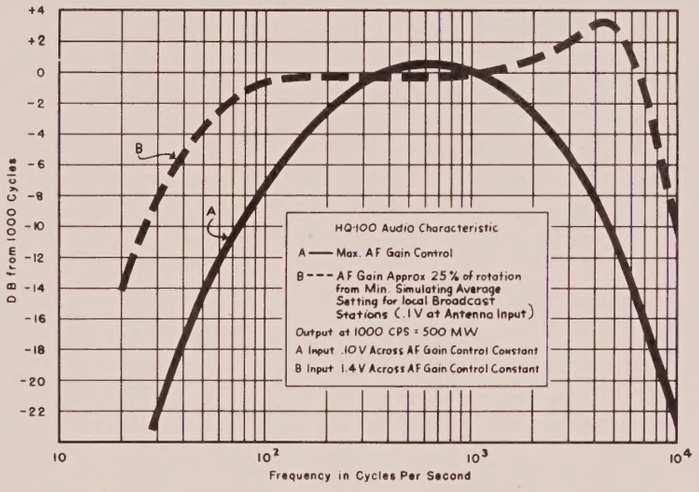
A newly-designed S meter assists in tuning and permits readings of signal strength. An easy-to-read scale is calibrated to 40 DB over S-9. The meter is factory calibrated so a signal of approximately 50 microvolts reads S-9. Each S unit indicates approximately a 6 DB increase, equivalent to doubling the signal strength.

AUDIO

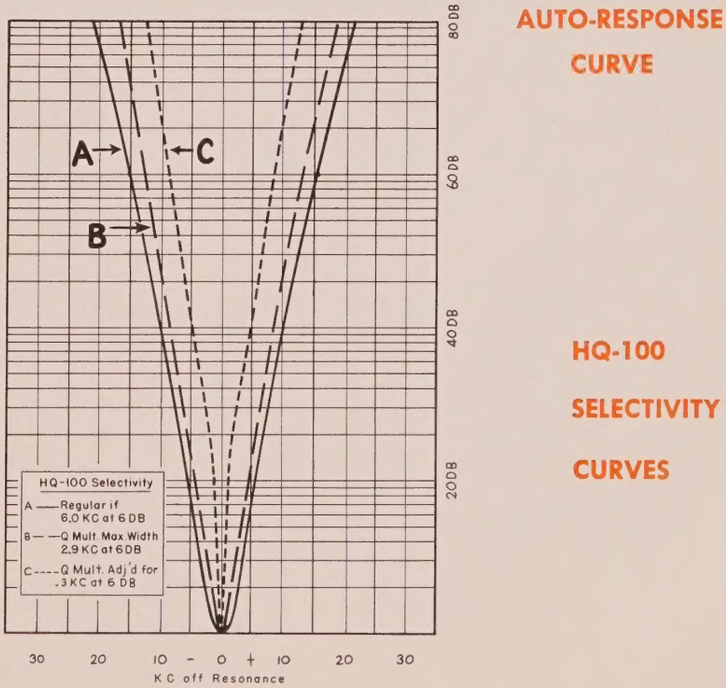
The HQ-100 has an audio output of approximately 1 watt. The first audio stage is a resistance-coupled voltage amplifier using a section of the 12AX7. The audio output stage uses a 6AQ5. The Auto-Response feature of the HQ-100 is a feedback loop in the audio circuit. As the audio gain is reduced, the feedback broadens the frequency response of the audio amplifier. The advantages of this circuitry are several. When receiving a good strong signal, the frequency response of the receiver is approximately 50 to 7500 cps, or approaching high-fidelity standards; however, when the signal is extremely weak and it is desirable to subdue everything but the intelligence of the communication, the Auto-Response circuit does just that, narrowing the audio bandwidth down to an effective 175 to 2500 cycles.

GENERAL

The HQ-100 is a general-purpose communications receiver. It is ideal for the amateur or the short-wave listener. It may be used with either earphones or loudspeaker. The phone plug automatically silences the speaker upon insertion. The Auto-Response feature permits pleasurable listening to overseas programs including music.



AUTO-RESPONSE CURVE



HQ-100 SELECTIVITY CURVES

HQ-100 SPECIFICATIONS

FREQUENCY RANGE ..... 540 KCS to 30 MCS in four bands.

CALIBRATED BANDSPREAD ..... Dial markings every 10 KCS on 80, 40, and 20 meter bands; every 20 KCS on 15 meter band; every 50 KCS on 10 meter band. Plus 0-100 arbitrary logging scale.

MAXIMUM AUDIO OUTPUT ..... 1.0 Watt (Undistorted).

OUTPUT IMPEDANCE ..... 3.2 ohms (RETMA standard).

AVC ACTION ..... Operates on RF and IF stages. Provides fast, smooth action.

VARIABLE SELECTIVITY ..... One position for high quality broadcast. One position for Q-Multiplier continuously variable from 100 CPS to 3 KCS.

SENSITIVITY ..... An average of 1.75μ volt produces 10-1 signal-to-noise ratio.

ANTENNA INPUT ..... 100 ohms nominal.

ANTENNA COMPENSATOR ..... Permits compensation for loading effects of various type antennas, or balanced transmission line.

BEAT FREQUENCY OSCILLATOR ..... Variable from zero beat to $\pm$ 4 KCS.

TUBE COMPLEMENT .....

RF Amplifier	6BZ6	First AF Amplifier Q-Multiplier-BFO	12AX7
Mixer	6BE6	Audio Power Output	6AQ5
HF Oscillator	6C4	Voltage Regulator	OB2
1st IF Amplifier	6BA6	Rectifier	5Y3
2nd IF Amplifier	6BA6		
Detector, Series Noise Limiter	6AL5		

POWER SUPPLY ..... 105-125 volts, 50-60 CPS, 68 watts.

"S" METER ..... Calibrated 1 to 9 in steps approximately 6 db. Also includes db scale above S-9 to + 40 db.

NOISE LIMITER ..... New series type which provides better limiting action with minimum effect on modulation.

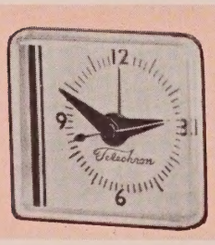
FRONT PANEL EQUIPMENT .....

Main Tuning
Bandspread Tuning
Sensitivity (RF Gain)
Audio Gain
Antenna (Compensator)
Tuning Range (Selector)
ON-OFF Switch, Send-Receive,
Q-Multiplier
CW Tone (BFO Pitch)
Limiter On-Off Switch
"S" Meter

REAR PANEL EQUIPMENT ..... Terminal for speaker connections.
Terminal for antenna and ground connections.
Phone Jack

DIMENSIONS ..... 16¼" long, 9-7/16" high, 9⅛" deep.
Weight: 26 lbs.
Shipping Wt.: 30 lbs.
Specifications subject to change without notice.

SPECIAL EXPORT MODEL
HQ-100E
115V 230V AC
50 to 60 Cy.
Supplied less clock and on special order only.



TELECHRON CLOCK-TIMER

Combination clock and automatic timer. Aids in meeting pre-arranged schedules. Optional accessory. Space in front panel provided

SPEAKER

Matching 6 x 9" speaker. Extended range. 8 watt capacity. Housed in attractive metal cabinet. 9-5/8" wide, 9-5/8" high, 7" deep. (Optional accessory)

HAMMARLUND

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Litho. in U.S.A.

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